



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
Port Orchard, Washington 98366

QUALITY ASSURANCE MEMORANDUM
FOR MICROBIOLOGICAL ANALYSES

DATE: April 2, 2010

TO: Curt Black, Project Manager
Office of Environmental Assessment, Risk Evaluation Unit, US EPA Region 10

From: Stephanie Harris, Microbiologist *SH*
Office of Environmental Assessment, US EPA Region 10 Laboratory

SUBJECT: Quality Assurance Review of Yakima Nitrate Study Phase 2
For Total coliform, fecal coliform and *E. coli*

Project Code: ESD-163A
Account Code: 1011B10P201B53C

The following is a quality assurance review of the results for the bacterial analyses of samples from the Yakima Nitrate Study Phase 2 Project. The analyses were performed by EPA microbiologists following US EPA and Laboratory guidelines.

This review was conducted for the following samples, inclusive:

10086000 series

6001 -6002, 6004, 6007-6009, 6013, 6016, 6018 – 6021, 6024 – 6025, 6027 – 6030, 6032, 6034, 6036-6039, 6043-6044, 6051-6052, 6054-6055.

10086100 series:

6101 -6104, 6107-6108, 111-115, 117, 120, 122-124, 127, 129-132, 135-138, 141, 143, 147.

10086200 series:

6201-6210, 6212-6215, 6217-6219, 6222, 6224-6225,

10096300 series:

6301, 6303, 6305, 6307-6309, 6313, 6319-6327, 6329-6330, 6332-6336, 6341, 6345-6346, 6348-6349, 6352-6354, 6357, 6359-6360, 6362-6364, 6366, 6368, 6371.

10096400 series:

6404, 6406, 6411, 6428-6430, 6433-6436, 6445, 6450, 6453, 6455-6456, 6459, 6465.

10096500 series:

6501, 6503-6508, 6511-6515, 6517-6524, 6527, 6529-6531, 6533-6534, 6593-6597, 6599

10090060 series:

10090060-0062.

1. Data Qualifications

Comments below refer to the quality control specifications outlined in the Laboratory's current Quality Assurance Manual, Standard Operating Procedures (SOPs) and the Quality Assurance Project Plan (QAPP). No excursions were required from the method's Standard Operating Procedure

All measures of quality control met Laboratory/QAPP criteria

The Region 10 Laboratory's Quality System has been accredited to the standards of the National Environmental Laboratory Accreditation Conference (NELAC).

2. Sample Transport and Receipt

During transport and upon sample receipt, no conditions were noted that would impact data quality for this project.

3. Sample Holding Times

For drinking water samples, a holding time of 30 hours must be met. This holding time requirement was achieved for these water samples. No qualification was required based on the holding time.

4. Laboratory Quality Control

All laboratory equipment and supplies used in this analytical procedure met the criteria as set forth in method SM9222D.

5. Reporting Limits

All sample results that fall below the detection limit are assigned the value of the detection limit with the "<" symbol attached. This means if the target organism is present in the sample, the level is below the minimum level at which the Laboratory is able to detect it.

6. Changes from Preliminary Data

No preliminary data was provided.

7. Data Qualifiers

- < The level of the target organism present in the sample is less than the detection limit. The reported value is the detection limit.
- > The level of the target organism present in the sample exceeds the upper limit for microbial estimates. The reported value is the upper limit

8. Definitions:

Negative controls - Sterility controls and transfer blanks prepared and analyzed with samples to assess whether there was any contamination introduced throughout the procedure.

Negative culture control - Test that demonstrates that the medium does not support the growth of a non-target organism or allow a reaction by a non-target organism which could be interpreted as a false positive result.

Positive culture controls - Tests that demonstrate that the medium can support the growth of the target organism and produces the expected reaction when the organism is present.

Sterility controls - Negative controls the results of which are required to show no bacterial growth.